
Norton Sound Health Corporation

Saint Lawrence Island
Sub Regional Services Summary
March, 2004

Project Summary and Background

The Norton Sound Health Corporation, NSHC, provides comprehensive health care services to the residents of Saint Lawrence Island through a multi-tier health care delivery system.

Tier One is provided at the village with local health aides who provide direct primary health care and offer first response for trauma and injury prevention. Supported directly from Medical and Clinical providers in Nome these critical staff are the backbone of the NSHC mission to provide quality health services and promote healthy choices within the community.

Tier Two builds on the Tier One model adding mid-level practitioners directly in the village to support the care provided by the health aides and expand the availability of services. The expanded services and larger staff of a Tier Two clinic typically results in decreased acuity of patients and increased focus on injury and disease prevention.

Tier Three services provide for routine inpatient events and comprehensive outpatient services. The Nome hospital is the only such facility in the entire Bering Strait Region. All village health care is referred to Nome when the needed service is not available in Tier One or Tier Two communities. The availability of service in each village is directly impacted by staffing, which fluctuates as midlevel providers come and go and local health aides become overwhelmed with the scope of responsibilities. Burn out, retention of staff, and recruitment are invisible barriers to providing health services in the village.

The Fourth Tier is represented by the Alaska Native Medical Center and other specialty facilities in Anchorage, more than 550 miles from Nome and one and a half hours away by air. This health care delivery model is presented in detail in the attached summary document titled "*How Do We Deliver?*"

In partnership with the communities of Gambell and Savoonga on Saint Lawrence Island (SLI) the Norton Sound Health Corporation is looking to dramatically expand and enhance the availability of healthcare for the nearly 1,500 full time residents (2003 State of Alaska DCED population of 1,354 – NSHC has patient registration documenting 716 users residing in Gambell and 729 in Savoonga) of some of the most remote land in Alaska. By transitioning the service delivery model to provide an Island-wide Tier Two model a substantial increase in the availability of care and the scope of services will be offered through a Sub Regional Services, SRS, program.

Saint Lawrence Island Sub Regional Services Project SLI-SRS

The SLI Project will create mid-level clinician positions based on the island. This model provides for comprehensive health services to the Island through two service points, Gambell and Savoonga. In each of these communities there will be expanded trauma spaces along with routine primary care to support a full time staff including health aides, clinic travel clerks, village based counselor, and mid-level practitioners. Additionally, there will be space that supports services that will be shared on the island from one service point to the other, such as dental health aides and floating midlevel providers and supporting spaces for itinerate clinicians from Nome.

The new facility will provide expanded opportunities that are currently unavailable. Village residents on the island will not have to travel hundreds of miles to receive services that people in Anchorage take for granted. Mid-level providers will oversee and consult onsite with health aides and provide direct care for more complex patients, creating a higher level of service. A program is currently underway to deploy digital X-Ray services and the supporting computer equipment in Nome. With this equipment village teleradiology will be integrated with the Hospital digital x-ray system. These new X-ray services will be available directly to the villages on the Island. The SLI-SRS will provide a dramatic improvement to the lives of the people on the Island.

NSHC is committed to providing health services in the village and to expanding and improving the level of primary care services available at the village level. By expanding the availability of services there will be a direct increase in both the quantity and quality of care for the sub region. The expansion of services will result in a general decrease in the acuity of patients, and an increase in the level of care as the clinical focus shifts to injury and disease prevention.

Project Need

The lack of adequate trauma space to support emergencies from preventable injury while waiting for a plane in Nome to be dispatched and a clinical team is mobilized can dramatically increase the acuity of the encounter and has often lead to death that would be routinely prevented in a modern facility in an urban center.

The lack of availability of care is compounded by the routine closure of communities on the Island due to inclement weather. Even the extreme measures of the National Guard helicopters supporting emergency transport have been unsuccessful in making the trip.

Recruitment and retention of staff is a key to successfully enhancing services. There has been a long standing legacy of mid level and other contract professionals who only stay on the island long enough to become a faceless body, disconnected from the community, gone before ever becoming a member. This lack of continuity and consistency leaves the local community health aides without a solid brace for service delivery and training support. Without multiple health care providers supporting each other the extreme

isolation, both geographical and professional, fosters attrition. This project will greatly enhance the ability to recruit and retain staff locally and drawn from outside of the Island that will end this cycle.

Another major barrier is the economy. With unemployment rate at 98.7%, many cannot afford to travel to Nome to see doctors, other medical providers and especially for dental work. Airfare has risen dramatically making it impossible for many to afford it. The new facility will make proper health care available and accessible for all the community members and others. It will eliminate some of the need to go in to Nome to receive services for x-rays, dental work, mental health and other specialty services. Pharmacy is also a real need on the Island, as there are many patients with chronic medical problems requiring medication. Many times when the weather is unfavorable for planes to arrive, and patients may go without medications. People with mental health problems are affected the most.

The increase of population and “Westernized civilization” has brought to the Island a demand for modern services, including better health care services among other things. Access to proper health care has always been a problem in on Saint Lawrence Island due to remoteness and the weather being a factor in getting airplanes in, especially when there is an emergency. With very limited services available, the residents have to travel to Nome or Anchorage to receive medical services for simple x-ray or dental work. With the ever rising airfare cost and with high unemployment rate, many cannot afford to travel, especially if they do not have lodging.

The need for new facilities is vital due to limited lease revenue to operate the existing clinic that has many deficiencies. The water & sewer line has been a problem causing the clinic to close when there is a freeze up and flooding, and with limited funds, it could take several days if not weeks to fix the problem.

By enhancing the availability of services will there will be a direct increase in both the quantity and quality of care for the sub region. As more patients seek care earlier in the acuity of their condition there will be a decrease in the number of routine travel to Nome and emergency medivac transports.

Services will be provided in an environment that is more culturally familiar and safe, especially from the lure of alcohol in Nome. Patients will receive care in an atmosphere they are comfortable with more conveniently, and the increase in the clinical supervision and consultation that the CHAP's in the sub region receive will improve the quality of care.

NSHC will own and operate the new facility service delivery points in both Gambell and Savoonga and is responsible for service delivery, maintenance, and operation.

Project History

Site planning for expanded services - A traditional sub regional model for the Island that would locate all enhanced services in one of the communities has been fully evaluated. An island wide healthcare steering committee with representatives from the IRA, City, Native Corporation drawn from each community to participate in a comprehensive evaluation of the viability of sub regionalized service delivery. This group initially met in Nome for several days with the NSHC planning team and members of the Denali Commission health care steering committee to discuss in detail the existing barriers and challenges of providing health care services to the island. The benefits and drawbacks of health care along with points to consider for site selection were identified and carried back to each community for local presentation and community discussion.

Each community identified several potential sites for consideration. Site selection and review activities were conducted by the SLI health care steering committee along with Denali Commission partners. Each identified site, in both communities, was evaluated with the complete steering committee and public meetings were held in both communities. Principal sites were identified in both communities. Both sites were evaluated by the technical A/E team and met all expectations for constructability and rapid regulatory review.

An Island wide meeting held in Gambell, with more than 20 representatives flying in from Savoonga, discussed the site selection process in a public forum. The huge turnout and substantial interest highlighted the community concern and involvement in expanding the service availability to the region. After two days of presentation and much struggle the primary site in each village was confirmed and the top two sites were prioritized; site A – Gambell, and B – Savoonga.

The comprehensive planning process to extend health care services to the Island clearly identified that any project would need to address enhanced space for trauma and routine care in each village. The lack of connecting roads on the island and that moving clinicians based on the island between each village, rather than patients, would more effectively address the needs. The Denali Commission planning health care team presented this approach as viable and smaller enhanced facilities providing a coordinated health care service

Saint Lawrence Island Background

In 1903, President Theodore Roosevelt declared St. Lawrence Island as a Reindeer Reservation by proclamation. A herd of reindeer was established and became a successful business operation. Two settlements were identified as stations; one in Savoonga and the other in Ayvigteq. Because of increasing need to provide basic education to their children, the two merged to form Savoonga in 1914. This was an ideal location for a subsistence based economy where marine mammals were readily available and in close proximity to Savoonga residents. There were four families that settled

initially. The current population of Savoonga is 665 (2003) and the Native Village of Savoonga IRA enrollment is now 780 (2003). The traditional form of government that existed from generations past was re-organized in 1934 under the Indian Reorganization Act (IRA). A post office was established in 1934 and the City of Savoonga was incorporated in 1969. When the Alaska Native Claims Settlement Act (ANCSA) was enacted in 1971, Gambell and Savoonga decided not to participate and opted for title to the entire St. Lawrence Island. The Island is owned by Gambell and Savoonga as tenants in common.

Gambell, (named after Mr. and Mrs. V.C. Gambell, Presbyterian Missionaries). St. Lawrence Island has been inhabited for thousands of years with 35 settlements all over the island; these are referred to as clans locally. In the 18th and 19th centuries, over 4,000 people inhabited the island. With the arrival of European whaling ships, famine and disease rapidly wiped out the population leaving little over 200 alive in Gambell. In 1920, the census indicated a population of just 48. From 1930-2000, the population has grown rapidly from 250 to 649 recorded per the census. There has also been an influx of teachers and other tribal members that had previously moved to Anchorage, Nome, or lower 48 States. Many have returned, home permanently. According to the IRA Tribal Membership Role, the current population in Gambell is now 767, including some 30 or more teachers and other professional positions that do not settle on the island permanently. Also, there is a high seasonal increase in population during the short summer months due to Bird Watchers, Tourists, Construction workers and Chukotka Region (Russians) relatives that are constantly coming and going by tour ships, skin boats, and airplanes. This influx brings a much needed cash and outside interest into the community at the expense of added draw on community wide utility and city services. To aide in supporting city services there is now a sales tax of 3%, with consideration for increasing this base to 5% this summer.

Real Life on the Island

Gunshot wounds, whether accidentally or self-inflicted. Since Gambell is a heavy subsistence community, accidents occur such as gunshot and black powder bombs used for whaling during subsistence activities. There have been several incidents within the past 10 years where they couldn't be medivac due to the weather. The current facility lacks proper trauma equipment and room, but the health aides have to do with what ever is available in the existing clinic to provide proper procedures with directions from the medical doctors in Nome or Anchorage through the telephone.

In August of 1976 there was a Wein airplane crash that resulted in 10 deaths with 20 surviving and because of the weather, the planes could not get there for several hours and it was by midnight the planes finally got there to medivac the survivors to Nome and critical ones to Anchorage.

At least once a year, we have overdue hunters out in the sea for over 2 days when they get caught in the ice pack. The current facility is so deficient in equipment to treat

hypothermic patients and many time have to send them into Nome or Anchorage. One incident occurred in mid 80's where one boat was out in the sea for over 2 weeks, but the crew survived the harsh weather. They had to be sent into Nome because of lack of proper facility and equipment to treat them locally for hypothermia and dehydration.

There are times when supplies of blood are needed and without proper storage for blood, some of the patients have to be sent into Nome or Anchorage to receive transfusion. In early 80's, a patient with pregnancy complication, had to wait a week due to weather to be sent into Nome to receive blood, and so happened to have a rare blood. There were only 2 people in Nome with the same type of blood and this patient needed 4 units of blood by the time she got to Nome. She could not be sent into Anchorage due to a lot of blood loss. Emergency surgery was performed in Nome by a non-surgeon with a help of a retired doctor with poor eye sight. With the new facility, the medical health care providers will be able to store and use blood supplies immediately when needed. Cancer patients lack proper care in the village due to lack of proper equipment and facility and many of them prefer to be sent to the hospital in Nome in order to receive better care that are lacking in the existing clinic, or choose not to receive proper care when they don't want to leave their families behind.

Without x-ray equipment, recently a person that had bumped his head died suddenly while hunting. Because he could not afford to travel to Anchorage to get a CAT Scan, his injury was not diagnosed.

Audiology services will also be enhanced through telemedicine. Majority of the children that are brought to the attention of the health aides are ear infections. Sometimes the problem is so neglected that hearing loss occurs.

There are several individuals that had aneurysm. One of them died because it was not diagnosed in time. The other one had to be in the Seattle hospital for several weeks due to surgery and she went into coma for a week.

Other examples of people that have been affected by the remoteness of our communities are those who are diabetic, cancer patients, and mothers having to leave for long period of time away from home on limited budgets. As example, recently an elderly diabetic woman went into a diabetic attack. She has to wait for an airplane for medivac to Nome and finally to Anchorage before receiving proper emergency help for her illness, taking hours. Several of her family members fly along with her with some help from the community. Two days later she is dead from complications.

Cancer patients spend weeks away from home in order to receive routine treatment and chemotherapy and need constant medication to relieve pain and effects of their illness. Without properly trained individuals, a patient may miss his/her required doses or take an overdose of medication further complicating their situation. Cancer related deaths have increased mainly because the will to live and hope is no longer strong and because they know they would have to spend weeks away from their families, their children,

grandchildren, spouses, all of the people that they cherish, and would rather spend their remaining moments with more than the health care they need to stay alive.

Geographic Isolation

The communities are almost completely bilingual with Yupik being the first language and English as the second language. The elders and the very young with limited English speaking skills would need to have an adult escort when called for an appointment. Because of language retained, many of our traditional songs and dances from the last century are still being practiced, essential for the well-being of our communities. An extract from "Community Strategic Development Plan for Savoonga 2004-2009" page 39; Savoonga Development Goal 1 is to "preserve the traditional knowledge passed on from our elders and to learn different aspects of western society for a brighter tomorrow." Development areas identified were; Education and Training, Health, Social, and Cultural objectives with associated prioritized projects.

The isolation of Savoonga and Gambell has helped to maintain a traditional St. Lawrence Island Yupik culture, the language retention of Yupigestun and the subsistence lifestyle based upon marine mammals including the sacred bowhead whale being the integral part of our cultural lifestyle along with walrus, seals of various species, waterfowl, seabirds, several anadromous fish species and reindeer has been preserved to date. This geographic isolation is, in this way, an environmental strength for a subsistence based economy. The subsistence users have unique knowledge of the environment and in constant vigilance of weather, sea-ice, water currents, sea-level and changes.

Within the last 15-20 years, the constant observation of weather and sea-ice by hunters has noticed a general warming trend. This warming trend has had devastating effects on all of our coastal communities practicing subsistence lifestyle. The traditional knowledge and polar scholars together assessed that there has been a 40% reduction of sea-ice in general; water level has risen because of the depletion graduating into massive coastal erosion. The other effect of this warming trend is more prevalent extreme weather conditions, atmospheric turmoil, more windier conditions contributing to reduced air service, coupled with wind driven high waves during the late fall, early winter contributes to airport closures especially at Gambell because the high waves go over the runway there on more frequent occasions.

Savoonga and Gambell's isolation with no seaport, no road or railway systems and iced-in conditions during the winter months means that everything must be flown in, including medical evacuations. The evacuations by airplane will take hours and if there is inclement weather, a patient may have to wait days before being treated. Several heart attack victims, who could have been saved if there were adequate trauma care, have died because of our remoteness. Gunshot victims perished because of blood loss, patients with severe cuts suffer from extreme blood loss before they receive any help and survivors contend with life-long disabilities and disfigurements.

A classic example of the effects of isolation is mothers that have to fly into Nome or Anchorage to have their babies. Most of them have to leave 4 weeks in advance before their due date either to Nome or Anchorage depending on how much care they need. It further complicates the issue because now her whole extended family is being affected, in terms of having to care for her other children, having to feed and all other associated costs, in addition to helping the mother on transportation, housing and her other needs on limited budget.

St. Lawrence Island residents with health care needs, medical, dental or otherwise must find cash resources in order to fly in to Nome or Anchorage. If they do not find the resources, most likely they will cancel their appointments because they cannot afford to fly in. An average fare between St. Lawrence Island and Nome is well over \$300 dollars round trip and a fare to Anchorage and return is in excess of \$1000. With high unemployment, very few can afford to fly in to receive adequate health care. The elderly and the very young need adult escorts to accompany them when they are called in for an appointment and very often will double the cash need to fly in.

Summary

This project will provide an immediate and sustained impact on the lives of the people of Saint Lawrence Island. Norton Sound is committed to the sustainability of services and facilities. For our communities, it is essential that health care becomes less stressful and by way of these proposed models, health care providers will become more responsive and available to the needs. It is important to retain traditional knowledge to preserve the well-being of our communities if they are to survive as healthy, happy and resourceful people.